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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/530,992	09/16/2005	Bert Groenendaal	234920	2167

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LEYDIG VOIT & MAYER, LTD
TWO PRUDENTIAL PLAZA, SUITE 4900
180 NORTH STETSON AVENUE
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EXAMINER	
ZIMMERMAN, JOSHUA D	
ART UNIT	**PAPER NUMBER**
2854	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/22/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/530,992	GROENENDAAL ET AL.	
	Examiner	Art Unit	
	Joshua D. Zimmerman	2854	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 January 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14,16 and 18-52* is/are pending in the application.

4a) Of the above claim(s) *See Continuation Sheet* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,5,11-14,16,20,26,29,35,39,44 and 47* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/07/05, 9/16/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continuation of Disposition of Claims: Claims withdrawn from consideration are 3,4,6-10,15,17-19,21-25,27,28,30-34,36,37,40-43,45,46 and 48-52.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of the requirement in the reply filed on 1/05/2007 is acknowledged. The traversal is on the ground(s) that there would be no excessive burden on the examiner and because the species are so linked as to form a single general inventive concept.

2. With respect to the requirement to elect between a positive or negative working printing plate, applicants' argument is found to be persuasive and is hereby WITHDRAWN.

However, the arguments pertaining to the remaining species are not found persuasive because: a) the burden of examination lies not only in the search of the distinct species, but also in the examination of multiple distinct species; and b) the polymer claimed in claim 1 is known in the art (see the rejection outlined below), and therefore the species are not linked so as to form a single general inventive concept.

The requirement is still deemed proper and is therefore made FINAL.

3. Claims 3, 4, 6-10, 15, 17-19, 21-25, 27, 28, 30-34, 36, 39-43, 45, 46, and 48-52 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 1/05/2007.

Claim Objections

4. Claims 5 and 14 are objected to for containing minor informalities.

Claim 5 appears to have a typographical error. The last line, "L5" is made superscript. Only the "5" in "L5" should be superscript. Appropriate correction is required.

Claim 14 appears to have a typographical error. In line 5, "orperfluoroalkyl" should be "or perfluoroalkyl." Appropriate correction is required.

This list is not taken to be exhaustive, and applicants are encouraged to ensure that no further errors are present.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

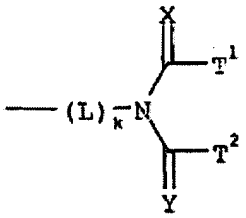
> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 2, 11, 12, 13, 14, 16, 26, 35 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunita (US 6391519).

Regarding claim 1, Kunita discloses "a polymer comprising a phenolic monomeric unit (polymer II-(1)) wherein the H atom of the hydroxy group of the phenolic monomeric unit is replaced by a group Q (the group -X-Y'-Z'; see column 5 lines 49-52, column 31, lines 46-50 and 57-65; column 32 lines 1-24 and especially line 22 reciting the selection of an imide, which inherently includes N-imides) wherein L is a linking group (component X), wherein k is 0 or 1, wherein L is covalently bound to the O atom of the polymer when k is 1, or wherein the N atom of the N-imide group is covalently

bound to the O atom of the polymer when k is 0 (see the structure of II-(1)), wherein X or Y are independently selected from O or S (when choosing an imide, X and Y are selected to be O), and wherein T^1 and T^2 represent a terminal group (when choosing an imide, T^1 and T^2 are inherently present, no matter which imide one chooses or which Z' (column 32, lines 55-67) one chooses)."

Kunita fails to disclose that the group Q is an N-imide and has the structure



However, it is noted that in the specific embodiment of Kunita cited here that a monovalent linking group Y' is not preferred (column 31, lines 58-60). However, the groups Y' are selected because they are "known to cause a strong interaction with a phenolic hydroxyl group (column 31, lines 60-64)." Further, in the first embodiment disclosed by Kunita, the groups from which Y are chosen include monovalent linking groups, such as monovalent imides and, generically, any monovalent nitrogen compound (see the list of structures drawn on column 6 for Y^1). Kunita chooses these compounds specifically because of the strong interaction with the phenolic hydroxyl group (column 30, lines 13-18), which is the same reasoning for choosing those structures listed for Y^1. Using these compounds/structures results in a film with a high density and an improved image recording material (column 30, lines 18-27). Therefore, at the time of the invention, it would have been obvious to one having ordinary skill in

the art to use an N-imide (a sub-genus of both the parent genera 'imide' and 'monovalent nitrogen compounds', which one having ordinary skill in the art could at once envisage) as the group Y' in the second embodiment (II-(1)) of Kunita in order to achieve a film with a high density.

An alternative motivation to combine the embodiments of Kunita will be outlined here. The specific functional group for the second embodiment of Kunita (X-Y'-Z') is chosen because it exhibits a strong interaction to create a hydrogen bond with an adjacent phenolic hydroxyl group in the polymer (column 39, lines 12-15) in order to create a film with a high density (column 39, lines 19-20). It is an inherent property of monovalent nitrogen that it will create hydrogen bonds with nearby hydroxyl groups. Therefore, at the time of the invention, it would have been obvious to one having ordinary skill in the art to use an N-imide (a sub-genus of both the parent genera 'imide' and 'monovalent nitrogen compounds', which one having ordinary skill in the art could at once envisage) as the group Y' in the second embodiment (II-(1)) of Kunita in order to achieve a film with a high density.

Regarding claim 2, Kunita further discloses "wherein the terminal groups T^1 and T^2 are independently selected from an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group (choosing an imide as the component Y' and any selection allowed by Kunita for Z' will result in the terminal groups meeting this limitation inherently. Specifically, with an N-imide as Y', and a methyl group as Z'), or wherein T^1 and T^2 together with the N-imide group

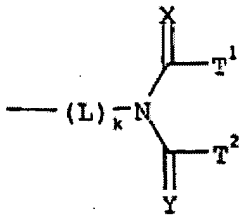
represent the necessary atoms to form a cyclic structure, or wherein T^1 and T^2 represent the following structures $-L^1-R^1$ and $-L^2-R^2$, wherein L^1 and L^2 represent independently a linking group, wherein R^1 and R^2 are independently selected from hydrogen, an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, halogen, --CN, or $--NO_2$, or therein two groups selected from each L^1, L^2, R^1 and R^2 together represent the necessary atoms to form a cyclic structure."

Regarding claim 11, Kunita further discloses "wherein said polymer comprising a phenolic monomeric unit is a novolac, resol or polyvinylphenol (column 5, lines 1-12, column 30 lines 50-52 and column 68 lines 40-45)."

Regarding claim 12, Kunita discloses "a heat-sensitive lithographic printing plate precursor (column 3, lines 41-45) comprising a support having a hydrophilic surface and an oleophilic coating provided on the hydrophilic surface (column 4 lines 41-45 and column 56, lines 17-18), said coating comprising an infrared light absorbing agent (column 4, lines 37-41) and a polymer comprising a phenolic monomeric unit (polymer II-(1)) wherein the H atom of the hydroxy group of the phenolic monomeric unit is replaced by a group Q (the group -X-Y'-Z'; see column 5 lines 49-52, column 31, lines 46-50 and 57-65; column 32 lines 1-24 and especially line 22 reciting the selection of an imide, which inherently includes N-imides) wherein L is a linking group (component X), wherein k is 0 or 1, wherein L is covalently bound to the O atom of the polymer when k is 1, or wherein the N atom of the N-imide group is covalently bound to the O atom of the polymer when k is 0 (see the structure of II-(1)), wherein X or Y are independently

selected from O or S (when choosing an imide, X and Y are selected to be O), and wherein T^1 and T^2 represent a terminal group (when choosing an imide, T^1 and T^2 are inherently present, no matter which imide one chooses or which Z' (column 32, lines 55-67) one chooses)."

Kunita fails to disclose that the group Q is an N-imide and has the structure



However, it is noted that in the specific embodiment of Kunita cited here that a monovalent linking group Y' is not preferred (column 31, lines 58-60). However, the groups Y' are selected because they are "known to cause a strong interaction with a phenolic hydroxyl group (column 31, lines 60-64)." Further, in the first embodiment disclosed by Kunita, the groups from which Y are chosen include monovalent linking groups, such as monovalent imides and, generically, any monovalent nitrogen compound (see the list of structures drawn on column 6 for Y^1). Kunita chooses these compounds specifically because of the strong interaction with the phenolic hydroxyl group (column 30, lines 13-18), which is the same reasoning for choosing those structures listed for Y^1. Using these compounds/structures results in a film with a high density and an improved image recording material (column 30, lines 18-27). Therefore, at the time of the invention, it would have been obvious to one having ordinary skill in the art to use an N-imide (a sub-genus of both the parent genera 'imide' and

'monovalent nitrogen compounds', which one having ordinary skill in the art could at once envisage) as the group Y' in the second embodiment (II-(1)) of Kunita in order to achieve a film with a high density.

An alternative motivation to combine the embodiments of Kunita will be outlined here. The specific functional group for the second embodiment of Kunita (X-Y'-Z') is chosen because it exhibits a strong interaction to create a hydrogen bond with an adjacent phenolic hydroxyl group in the polymer (column 39, lines 12-15) in order to create a film with a high density (column 39, lines 19-20). It is an inherent property of monovalent nitrogen that it will create hydrogen bonds with nearby hydroxyl groups. Therefore, at the time of the invention, it would have been obvious to one having ordinary skill in the art to use an N-imide (a sub-genus of both the parent genera 'imide' and 'monovalent nitrogen compounds', which one having ordinary skill in the art could at once envisage) as the group Y' in the second embodiment (II-(1)) of Kunita in order to achieve a film with a high density.

Regarding claim 13, Kunita further discloses "wherein said coating further comprises a dissolution inhibitor and wherein said precursor is a positive working lithographic printing plate precursor (column 4, lines 52-56 and column 47, lines 47-67)."

Regarding claim 14, Kunita further disclose "wherein said dissolution inhibitor is selected from the group consisting of

an organic compound which comprises at least one aromatic group and a hydrogen bonding site (column 47, lines 59-61),

a polymer or surfactant comprising siloxane or perfluoroalkyl units, and mixtures thereof."

Regarding claim 16, Kunita further discloses "wherein said coating further comprises a latent Bronsted acid and an acid-crosslinkable compound and wherein said precursor is a negative working lithographic printing plate precursor (column 4, lines 46-51)."

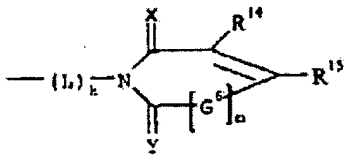
Regarding claim 26, Kunita further discloses "wherein the terminal groups T^1 and T^2 are independently selected from an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group (choosing an imide as the component Y' and any selection allowed by Kunita for Z' will result in the terminal groups meeting this limitation inherently. Specifically, with an N-imide as Y', and a methyl group as Z'), or wherein T^1 and T^2 together with the N-imide group represent the necessary atoms to form a cyclic structure, or wherein T^1 and T^2 represent the following structures $-L^1-R^1$ and $-L^2-R^2$, wherein L^1 and L^2 represent independently a linking group, wherein R^1 and R^2 are independently selected from hydrogen, an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, halogen, --CN, or $--NO_2$, or therein two groups selected from each L^1, L^2, R^1 and R^2 together represent the necessary atoms to form a cyclic structure."

Regarding claim 35, Kunita further discloses "wherein said coating further comprises a dissolution inhibitor and wherein said precursor is a positive working lithographic printing plate precursor (column 4, lines 52-56 and column 47, lines 47-67)."

Regarding claim 44, Kunita further discloses "wherein said coating further comprises a latent Bronsted acid and an acid-crosslinkable compound and wherein said precursor is a negative working lithographic printing plate precursor (column 4, lines 46-51)."

6. Claims 5, 20, 29, 39 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunita as applied to claims 1, 2 and 12 above, further in view of Deroover et al. (US 2004/0048195).

Regarding claims 5, 20 and 29 Kunita discloses all that is claimed, but fail to disclose that "the N-imide group Q has the following formula



wherein G.sup.6 is a group selected from O, S, NR^{11} or $CR^{12}R^{13}$, wherein m is o or 1, wherein R^{12} to R^{15} are independently selected from hydrogen, an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group or $-L^5-R^{16}$, wherein L^5 is a linking group, wherein R^{11} and R^{16} are independently selected from hydrogen or an optionally substituted alkyl, alkenyl, alkynyl, cycloalkyl, heterocyclic, aryl, heteroaryl, aralkyl or heteroaralkyl group, or wherein two

groups selected from each R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16} and ^{L5} together represent the necessary atoms to form a cyclic structure."

However, as discussed above in the rejection of claims 1, 2 and 12, respectively, an N-imide group is chosen, but a specific imide is not. Deroover et al. teach using phthalimides in polymers for lithographic printing plate precursors in order to improve the run length and chemical resistance of the plate (paragraph 53). Therefore, at the time of the invention, it would have been obvious to one having ordinary skill in the art to use a phthalimide as the imide group in the modified embodiment of Kunita in order to improve the run length and chemical resistance of the plate. It is noted that when using a phthalimide, the above limitations are met as outlined here: m=0, X and Y are O, and R^{14} and R^{15} form an aromatic 6-membered ring.

Regarding claim 39, Kunita further discloses "wherein said coating further comprises a dissolution inhibitor and wherein said precursor is a positive working lithographic printing plate precursor (column 4, lines 52-56 and column 47, lines 47-67)."

Regarding claim 47, Kunita further discloses "wherein said coating further comprises a latent Bronsted acid and an acid-crosslinkable compound and wherein said precursor is a negative working lithographic printing plate precursor (column 4, lines 46-51)."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua D. Zimmerman whose telephone number is 571-

272-2749. The examiner can normally be reached on M-R 8:30A - 6:00P, Alternate Fridays 8:30A-5:00P.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Joshua D Zimmerman
Examiner
Art Unit 2854

jdz

JUDY NGUYEN
SUPERVISORY PATENT EXAMINER